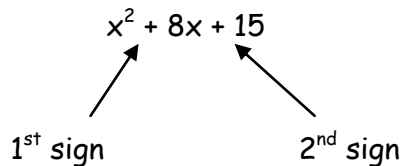


To factor a trinomial means to transform it to a product of two or more factors. (Undo the multiplying.) Factoring polynomials that are in the form  $ax^2 + bx + c$  can be broken up into specific cases.

**Second Sign is Positive**  $\Rightarrow$  Both factors are either positive or negative, based on the first sign.

Example 1:



To Factor:

1. Determine signs.
2. Find the factors of the first and last terms.
3. Find the factors that add to get the middle term.

**Second Sign is Negative**  $\Rightarrow$  One factor is positive and one is negative.

Example 2:

$$x^2 + x - 6$$

To Factor:

1. Determine signs.
2. Find the factors of the first and last terms.
3. Find the factors that subtract to get the middle term.

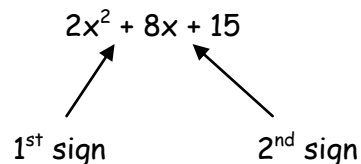
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Trinomials in which  $a$  has a coefficient other than 1 in  $ax^2 + bx + c$  can be factored similarly to trinomials in Factoring Day 2.

**Second Sign is Positive**  $\Rightarrow$  Both factors are either positive or negative, based on the first sign.

**Second Sign is Negative**  $\Rightarrow$  One factor is positive and one is negative.

Example:



To Factor:

1. Determine signs.
2. Find the factors of the first and last terms.
3. Guess and check, by multiplying, to determine which factors are correct.

Factoring - Day 2  
Notes

Name \_\_\_\_\_  
Date \_\_\_\_\_ Period \_\_\_\_\_

.....

Factor

1.  $x^2 + 8x + 15$

2.  $x^2 - 12x + 20$

3.  $x^2 - 6x + 8$

4.  $7x^2 + 9x + 2$

5.  $3x^2 + 5x - 2$

6.  $4x^2 - 7x - 2$

7.  $3x^2 - 16x + 5$

8.  $4x^2 - 25$